To: Vendlinski, Tim[vendlinski.tim@epa.gov]

Cc: Ziegler, Sam[Ziegler.Sam@epa.gov]; Kemmerer, John[KEMMERER.JOHN@EPA.GOV];

Diamond, Jane[Diamond.Jane@epa.gov]; Gorke, Roger[Gorke.Roger@epa.gov]

From: Foresman, Erin

Sent: Thur 5/29/2014 6:27:07 PM

Subject: RE: SWRCB Panel Report (convened by the Delta Stewardship Council) re: Delta Outflows

and other stressors

Hi Tim,

Glad you had a chance to take a look at the document and I agree, it is support for continued employment of the X2 approach to standards but also not to expect an improved X2 standard to restore the estuary on its own. Additional actions need to be taken to increase fish populations and restore beneficial use protection.

I interpreted the "modest changes" to X2 referred to in the fourth bullet as a reference to the USFWS Delta smelt BiOp that requires Fall X2. Fall X2 may appear modest because it requires Fall X2 in wet and above normal years only and it ranges from 74 (wet) – 81 (above normal) km which perhaps are not optimally protective X2 values, even for the fall. I will follow up and make sure I'm interpreting that section correctly. I don't think it is referring to Phase I though.

Erin Foresman

US EPA | SF Bay Delta | Environmental Scientist

C/O NMFS 650 Capitol Mall| Sacramento, CA 95814

916-930-3722|www.epa.gov/sfbaydelta

Schedule: M 8:30a - 5:00p; T - F 8:30a - 3:00p

From: Vendlinski, Tim

Sent: Friday, May 23, 2014 2:11 PM

To: Foresman, Erin

Cc: Ziegler, Sam; Kemmerer, John; Diamond, Jane; Gorke, Roger

Subject: SWRCB Panel Report (convened by the Delta Stewardship Council) re: Delta Outflows

and other stressors

Thank you, Erin.

Unless I'm misinterpreting the significance of the Panel's findings, the issuance of this report seems like a major milestone to me.

I'm heartened that the Panel reinforced the value of using the "X2" low salinity zone (LSZ) approach to protect fishes and ecosystem processes, especially since the approach has been under such sustained attack by water users. The Panel's conclusions will strengthen our resolve to modernize the original X2 approach using the 3D <u>UnTRIM model</u>, and to furnish the State Water Board with technical tools for advancing the comprehensive update of the Bay Delta WQCP.

I have one question; are the "modest changes in fall Delta outflows" referenced in the 4th bullet a reference to the Phase 1 process for the lower SJR and South Delta; i.e., is this a direct reference to the proposed 35% unimpaired flow level?

Cheers, Tim

Tim Vendlinski

Senior Policy Advisor;

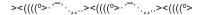
Bay Delta Program Manager

EPA Region 9

75 Hawthorne Street (WTR-1)

San Francisco, CA 94105-3901

(415) 972-3469 desk



From: Foresman, Erin

Sent: Monday, May 19, 2014 2:46 PM

To: Hagler, Tom; Skophammer, Stephanie; Vendlinski, Tim; Cabrera-Stagno, Valentina

Subject: Panel report on Delta Outflows and other stressors

Hi Everyone,

Here are some interesting statements from the SWRCB Panel Report (attached) that was produced after a workshop earlier this year. I have not read the whole thing but will spend more time with it.

• □ □ □ □ □ □ □ We recommend that in setting Delta outflow objectives, the State Board should use a suite of indicators, including X2, to ensure ecosystem (beyond individual species) health and to better understand and anticipate how outflow changes will affect not only target species but also other aspects of the ecosystem.
•□□□□□□□ X2 is the "salinity zone" approach, which is the standard approach used nearly universally to set estuarine flow standards in the U.S. and throughout the world (Montagna et al. 2013).
•□□□□□□□ X2 has many good features as an indicator of conditions that relate outflow to species abundance, and is appealing as a single, simple metric for studying and managing the effects of freshwater inflow on the Bay-Delta estuary, but X2 by itself does not capture all of the biologically relevant elements of flow dynamics that affect the estuary.
• □ □ □ □ □ □ □ We saw little evidence that the relatively modest changes in <u>fall</u> (emphasis added) Delta outflows that are being proposed are going to result in substantive increases in abundance of key pelagic fish species based on their X2-abundance relationships.
•□□□□□□□□ It seems unlikely that the predicted increase in the abundance index under any proposed regime would result in a substantive improvement in abundance of Delta Smelt in the short-term due to stock size limitations.

• □ □ □ □ □ □ In the simplest terms, freshwater outflows affect water quality, water circulation, and the distribution of dissolved and particulate materials within the estuary. Mobile organisms

actively orient to these environmental cues.
• □ □ □ □ □ □ □ □ The Panel unanimously agrees that the distribution, condition, and abundance of some estuarine organisms are statistically associated with outflow and X2 because these two indicators are tied to underlying physical and ecological processes that more directly affect the estuarine organisms.
• • • • • • • • • • • • • • • • • • •
• □ □ □ □ □ □ □ □ Expressing outflow (and X2) in terms relative to conditions in key habitat features, such as the LSZ, Suisun Marsh, and the intermittently flooded habitat at the intersection with the shoreline and with conditions in specific sub-embayments is helpful. In a sense, not only expressing X2 in kilometers, but also having several axes that show habitat volumes or areas and habitat types or features helps to provide context for flow or X2 objectives.
Here are the panel members:
Denise Reed - Water Institute of the Gulf (Panel Chair)
James (Tim) Hollibaugh - University of Georgia
Josh Korman - University of British Columbia/Ecometric Consulting
Ernst Peebles - University of South Florida
Kenneth Rose - Louisiana State University
Pete Smith - Unites States Geological Survey, retired
Paul Montagna - Texas A&M University, Corpus Christi

Erin Foresman

US EPA | SF Bay Delta | Environmental Scientist

C/O NMFS 650 Capitol Mall| Sacramento, CA 95814

916-930-3722|www.epa.gov/sfbaydelta

Schedule: M 8:30a - 5:00p; T - F 8:30a - 3:00p